

## REMARKS

Upon entry of the amendments, claims 30-35 are pending. Claims 4-6 are cancelled. Applicants reserve the right to pursue the subject matter of these claims in one or more continuing applications. Claims 30, 32, 33 and 35 are amended to incorporate the subject matter of cancelled claims 4 and 5 and correct dependency. No new matter is added.

### **Rejection under 35 U.S.C. §112, First Paragraph**

Claims 4-6 and 30-35 are rejected under 35 U.S.C. §112, first paragraph for failing to comply with the enablement requirement. The Examiner states that Applicants have not fully enabled the claimed invention for the full scope of the claim. Specifically, the Examiner states that the claims are drawn to “conditions” that allow the formation of S-nitrosohemoglobin (SNOHb). However, the Examiner asserts that specific conditions are necessary to make the desired end product and the instant specification does not describe all the desired conditions to achieve SNOHb. Moreover, the Examiner asserts that the results of the instant application describe that the desired SNOHb is not obtained under the described experimental conditions. As such, the Examiner contends that the one of ordinary skill in the art would be burdened with undue experimentation to determine the appropriate conditions for obtaining SNOHb rather than obtaining methemoglobin (metHb) or iron-nitrosylhemoglobin. *See*, Office Action at pages 2-3. Applicants traverse.

The instant specification describes that low phosphate conditions (*i.e.*, less than 100 mM and preferably 10mM) results in cooperativity of NO binding and high yield of SNO formation; that is, transformation of NO into SNO is achieved by preserving redox chemistry in hemoglobin. *See*, page 23 at lines 9-12. However, it appears that the Examiner asserts that the results in Example 3 direct the ordinary skilled artisan away from Applicants claimed invention. Applicants submit that the Examiner has misconstrued the teachings in Example 3 of the instant specification. The experiments described in Example 3 were designed to measure the yield of iron-nitrosylhemoglobin vs. metHb under low phosphate conditions (*i.e.*, less than 100 mM and preferably 10mM) not to measure the yield of SNOHb under those conditions. *See*, page 46, line 13 - page

47, line 11. However, the experiments described in Example 4 carried out under low phosphate conditions were designed to measure the yield of SNOHb and the results of those experiments show that SNOHb and intraerythrocytic SNOHb are produced under those low phosphate conditions. *See*, page 18, lines 16-25; page 47, line 12 - page 48, line 2; Figures 4C and 4D and page 8, lines 19-22.

For the foregoing reasons, Applicants submit that one of ordinary skill in the art, provided with the teaching of the instant specification, would readily determine the appropriate conditions for producing SNOHb and intraerythrocytic SNOHb without the need for undue experimentation. Applicants respectfully request the rejection be withdrawn.

### CONCLUSION

On the basis of the foregoing amendment and remark, Applicants respectfully submit that the pending claims are in condition for allowance. Should any questions or issues arise concerning this application, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,



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